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GB 1591623
GB 1428157
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G4V

(54) Gaming or amusement-with-prizes machines

(57) The machine has a main display matrix (5) of symbols, preferably numbers, and a random selector device (10,11) similar to the reels of a fruit machine. When played, numbers selected by this device are illuminated on the matrix, and if they are in certain combinations such as rows, columns or diagonals, a prize is won. The machine further provides player-operable means (20) for altering the main matrix before the random selection is completed, such as by rotating sub-matrices, to improve the chances of a win. There can be separate but smaller subsidiary matrices (7) which may come into similar play on a random basis, and another feature (21) may occasionally allow symbols illuminated in one game to be held over to the next one.

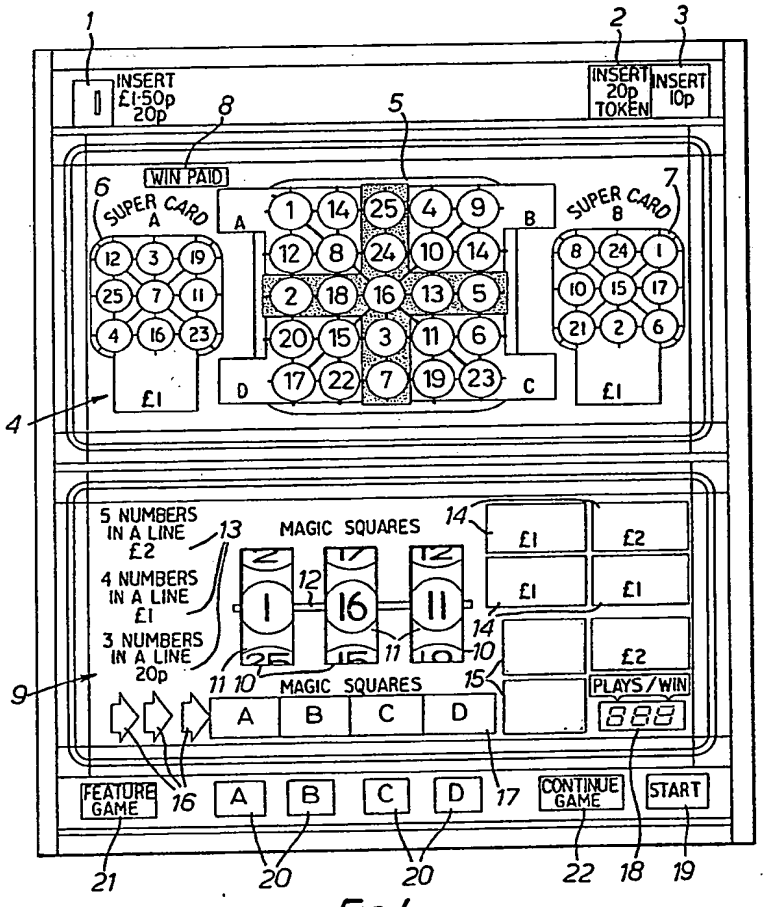

FIG. 1.

The drawing(s) originally filed was (were) informal and the print here reproduced is taken from a later filed formal copy.
This print takes account of replacement documents submitted after the date of filing to enable the application to comply with the formal requirements of the Patents Rules 1982.
The claims were filed later than the filing date within the period prescribed by Rule 25(1) of the Patents Rules 1982.

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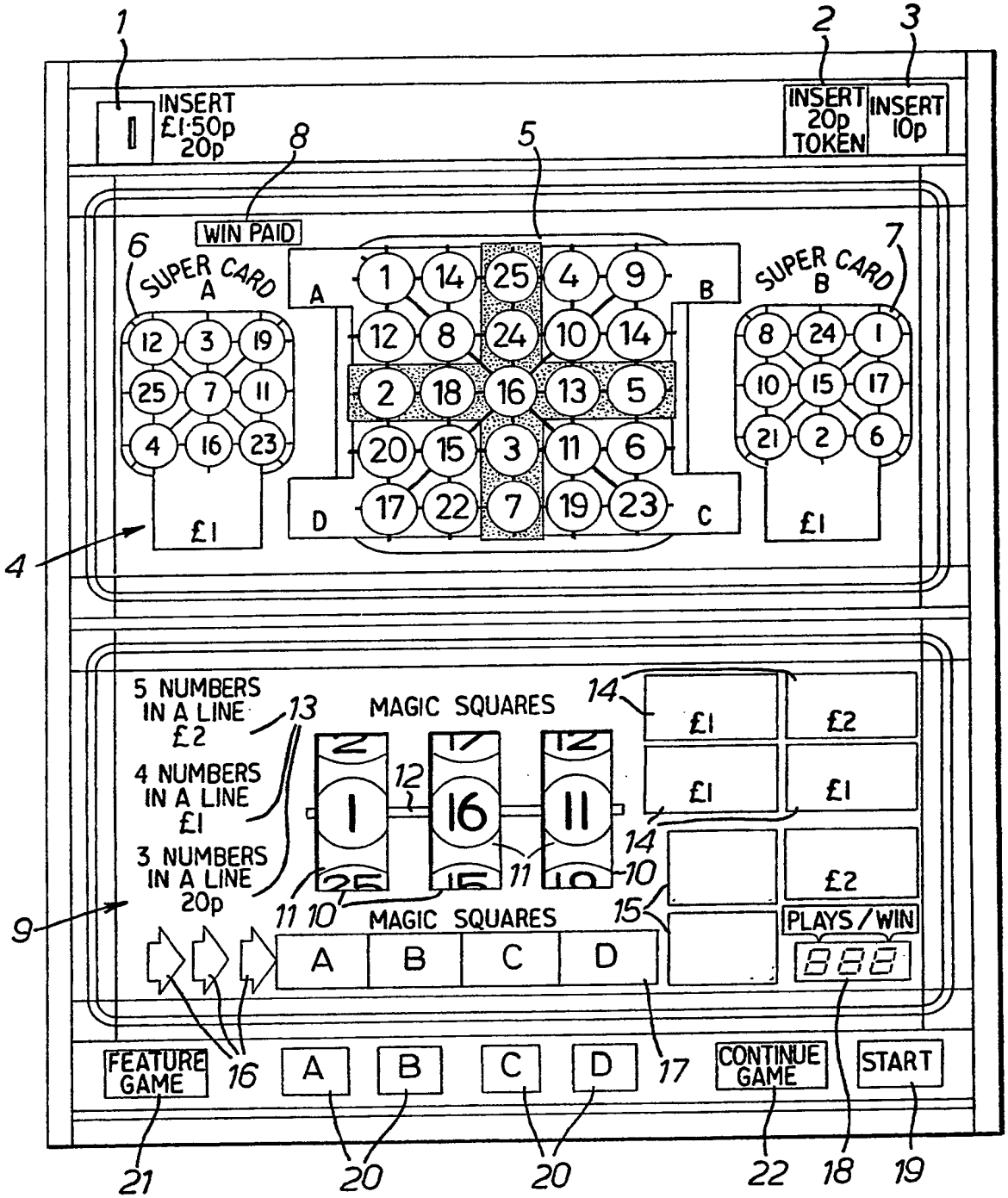

FIG. 1.

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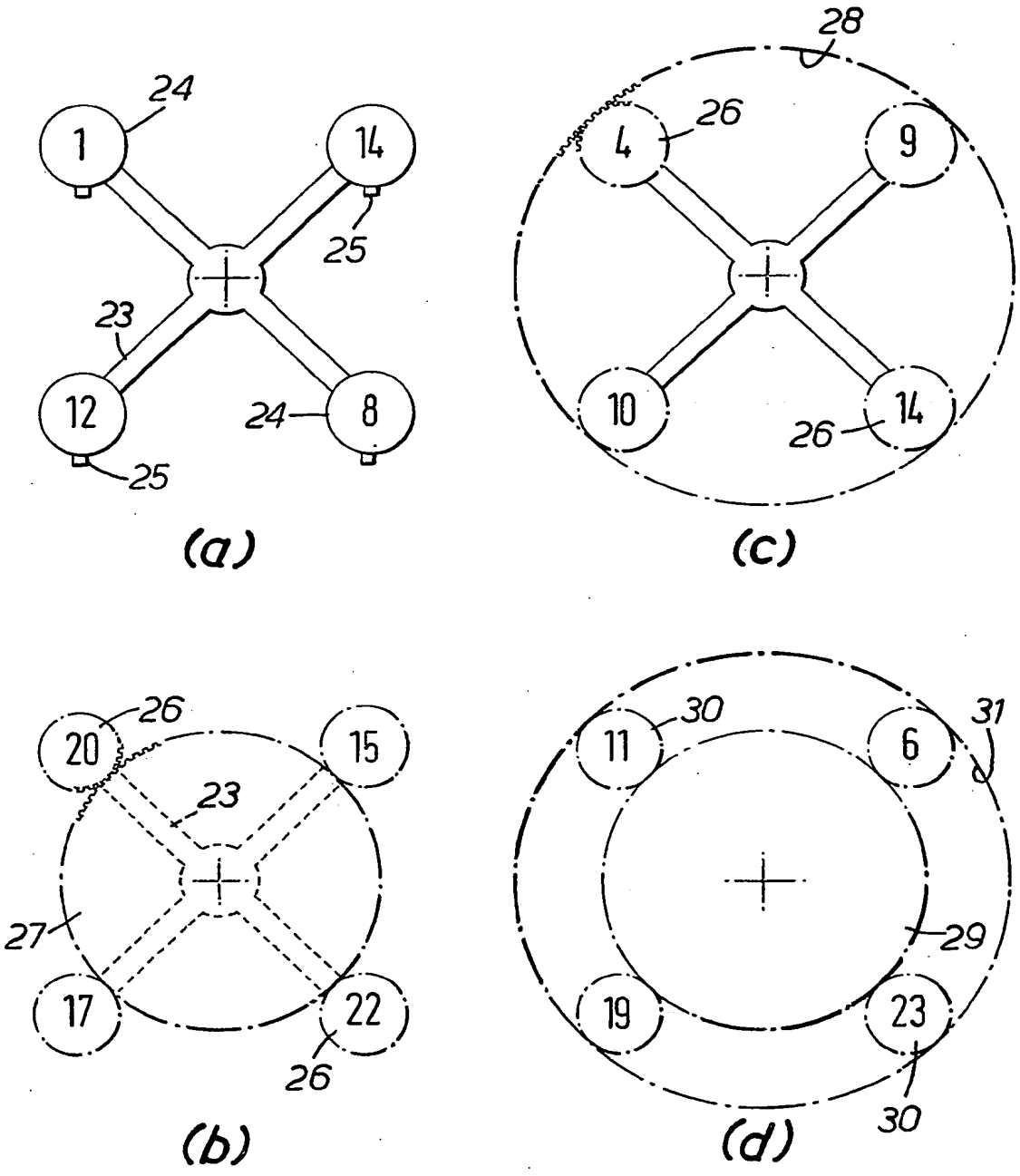

FIG.2.

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SPECIFICATION

Improvements relating to gaming or amusement-with-prizes machines

This invention relates to gaming or amusement-with-prizes machines.

Various machines have been developed for individuals to play Bingo, and some of these are based on conventional fruit machines where reels spin and stop to give a line of symbols. As well as considering this line for a prize, there is a secondary display in the form of a Bingo card on which certain symbols can be illuminated. If they turn up on the reels they are transferred to this display to build up a line of numbers and so generate a prize.

It is the aim of this invention of provide a machine based on the general idea of Bingo but which offers considerable variety and speedy play.

According to the present invention there is provided a gaming or amusement-with-prizes machine comprising a random symbol generator for producing a plurality of symbols at each play, a display with the symbols set out in formation, means for distinguishing in the formation symbols selected by the generator, means for awarding a prize if the distiguished symbols combine in particular sub-formations, and means for varying the formation whereby different and possibly prize-winning sub-formations can be achieved.

Preferably, the varying means is randomly enabled during the symbol generation. Thus, the player will see one or more symbols being distinguished on the formation, which he may then be able to adjust before all the symbols are selected. Generally, it will not be permitted to make any alteration after all the symbols have been generated and transferred to the display.

Conveniently, the formation will be a matrix of rows and columns, and the symbols may simply be numbers, for example 1 to 25 in a 5 x 5 array. The sub-formations may be straight lines in rows, columns or diagonals of the matrix. There may be graduated prizes, with a small one for 3 symbols in a line, for example, and progressively bigger prizes for 4 or 5 in a line. There could be a smaller or bigger matrix than 5 x 5, and it does not have to be square.

The variation of the formation may be by adjustment of sub-matrices. For example, one or more 2 x 2 squares could be altered by their symbols being indexed around one or more steps in either direction. Each step would transform a 2-symbol row into a column and vice-versa. The number of sub-matrices that are adjustable may also be a matter of random selection.

If the feature does become available, the player may be given the option of not availing himself of it. Thus, he may elect to leave the matrix unchanged and allow the random signal generation to continue.

The machine may have further features, also made available on a random basis. For example, certain prizes may be increased above the normal, and certain sub-formations that do not normally win prizes may generate them. For instance, the symbols at the corners of the matrix, if simultaneously distinguished, may not normally win a prize, but occasionally the machine may determine that they will do so.

There may also be one or more subsidiary displays, preferably in the form of smaller matrices, with symbols that can be individually distinguished. However, they will only come into play when they are randomly enabled. Again, the object will be to achieve a line.

Another feature occasionally available may be the holding of symbols on the display from the previous game and having further random generation to add to them, but not necessarily as many symbols again. The adjustment of sub-formations will then preferably be disabled.

The symbol generation may be from reels similar to those of a conventional fruit machine. Normally there will be three or four such reels, with numbers around their periphery rather than fruit symbols. In order to have any chance of completing a full line in a 5 x 5 matrix, they will spin twice, the second spin being automatic after the first one. It will be preferred to allow the main feature only after the first spin, and after the first reel of the second spin has stopped. The feature may then be permitted when four numbers are known, or it may be delayed further until the next reel has stopped and five numbers are known.

For a better understanding of the invention, one embodiment will now be described, by way of example, with reference to the accompanying drawings, in which:

Figure 1 is a face view of the display of an amusement-with-prizes machines, and

Figure 2 shows diagrammatically various devices for adjusting the display of the machine.

The machine is coin or token operated, and at the top of the display there are slots 1,2 and 3 for various forms of payment. Below this, there is an upper panel 4 with a central main "card" 5 and two subsidiary cards 6 and 7 at each side. The main card is a 5 x 5 matrix of numbers 1 to 25 arranged in random fashion. Each number can be back-lit by a respective lamp behind the panel, and some have particular colours, for example one group is yellow, while another group is red. These groups may be lines, squares or other combinations (not necessarily regular) of numbers. The centre row and centre column remain fixed but the 2 x 2 squares in each corner, labelled A,B,C & D are adjustable as described below. The cards 6 and 7 are static, and their numbers can also be individually illuminated by lamps behind the panel. This panel 4 also has a "win-paid" indicator 8 which lights up or flashes when a win is achieved and paid out.

A lower panel 9 has three windows 10 in which portions of reels 11 show, arranged in fruit machine fashion. Around the periphery of each reel is printed in sequence of numbers 1 to 25. In play, the reels spin and stop, and the numbers then showing on the centre line 12 are correspondingly illuminated on the card 5.

To the left of the windows 10 there are legends 13 showing standard wins, while to the right there are labels 14 for indicating various randomly available

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features. They require no action on the part of the player, but merely announce, for example by a flashing back-light, the availability of certain prizes if various combinations appear on the card 5. There are two other labels 15 with this group and when the main feature is available, one or other of them lights up permanently after alternate flashing. They instruct the player to take action (if he wishes) before either the fifth or sixth reels stop. The reels have two successive spins as mentioned above and for convenience we regard the reels operating for the second time as the fourth, fifth and sixth reels. Below the windows 10 there is a sequence of arrows 16 pointing to divided strip 17 marked A, B, C & D whose partial or complete illumination indicates the availability of adjustment of the respective squares A, B, C & D on the card 5. In the lower right-hand corner of the panel 9 there is an LED display 18 which shows the credit available.

Along the botton there are buttons for operating the machine when it is in credit. There is a start button 19 and a group of buttons 20 labelled A, B, C & D by which the corresponding squares can be selected. A button 21 is pressed if a secondary feature game (to be described) is available and the player wants to take advantage of it, while a further button 22 enables the player to allow the reels to spin to a stop without taking advantage of adjustment of the squares A, B, C & D.

To play a game, the machine is put in credit and the start button 19 is pressed. The reels 11 spin and come to a stop in sequence. The numbers showing on the line 12 are illuminated on the card 5 and on the cards 6 and 7 if the latter have come into play on a random basis. One or other, or possibly both, will then be illuminated or otherwise shown as being active. The reels automatically start to spin again and the first reel on the left stops. Its displayed number is illuminated on the card 5, and possibly on cards 6 and 7 if available. If the main feature (the adjustment of squares) is not available, the other two reels spin on and then stop, and their numbers are likewise picked out on the card 5 and possibly on the cards 6 and 7. If there are three or more numbers in a straight line there will be a prize, the amounts being indicated on the panel 9. It is possible to have more than one line, and the prizes will be cumulative.

If the main feature is available, this is signalled to the player after the fourth reel has stopped. One or other of the labels 15 will then be illuminated giving the player the opportunity to press one or more of the buttons 20. He may have to do this before the fifth reel stops, or before the sixth reel. Also, not all the segments of the strip 17 will necessarily be effective. However, when any of them is enabled the player can juggle the numbers by shifting those in the appropriate 2 x 2 square. When the associated button 20 is pressed, the numbers will index around one step. The machine may allow two or more such steps. For example, if the first reel spin has produced the numbers 16, 11 and 23, and the fourth reel has produced the number 14, then if the feature becomes available the player will press the button 20A to shift 14 down on to the diagonal and so achieve four in a line. The fifth and sixth reels may give him the number 12 further to increase his win.

If, however, the main feature is available and the card 5 promises a satisfactory prize without alteration of any of the squares A,B,C or D, the player may opt to let the reels spin on. If he does nothing they will eventually time out and stop. But this can be accelerated by the player pressing button 22, which tells the machine that the feature is not required and the reels can stop almost immediately.

The feature game button 21 is also randomly active. When it is, and if the player presses it, the main feature is disabled, but the numbers on the cards 5, 6 and 7 from the previous game will stay lit. When the game is played, the reels 11 spin once only, and the numbers that appear on the line 12 are illuminated on the card(s). This, of course, substantially increases the chances of a win.

Figure 2 shows diagrammatically various devices by which "magic squares" A,B,C and D can be adjusted. In each of the first three cases there is a main rotary member 23 with an axis central of the respective square and which is rotated by a stepper motor (not shown) under the control of the machine's electronic system. This can position the member 23 accurately using the system described in our British Patent No. 1,550,732.

In Figure 2(a) the numbers are on translucent discs 24 at the ends of four arms of a spider-like member 23. Each disc is centrally pivoted and biased by a weight 25 so that the number on the disc remains upright, although it may oscillate a bit when the member 23 is rotated. There will be permanant back-lights behind each stopped disc position, and when the member 23 is rotated, the lights will be extinguished and lit in corresponding cyclic fashion to follow that rotation and keep the same number or numbers illuminated at the next stopped position.

In Figure 2(b) the member 23 is again a four-armed spider and at the end of each arm there is a gear wheel 26 of transclucent plastics material. These form planets which mesh with a central fixed sun gear 27. The gear ratio is such that when the member 23 is rotated through 90°, each planet completes a whole revolution so that a number inscribed on it capsizes and returns to the upright position. Back-lights as described above, behind the stopped postions, will show through the gears 26 to illuminate selected numbers.

A similar idea is shown in Figure 2(c) where instead of meshing with a central sun gear, the gear wheels 26 mesh with an internally toothed annulus 28.

To avoid having the gears on arms which partially interrupt the back-lighting, the arrangement of Figure 2(d) may be adopted. This is similar to an epicyclic gear train with a sun 29, planets 30 and an annulus 31. The transclucent, numbered planets "float" between the sun and annulus, and one of the latter two is kept fixed while the other is rotated. This causes the planets to move around, and with a suitable gear ratio the numbers will return to an upright position at every quarter.

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CLAIMS

1. A gaming or amusement-with-prizes machine comprising a random symbol generator for selecting a plurality of symbols at each play, a display with the symbols set out in formation, means for distinguishing in the formation symbols selected by the generator, means for awarding a prize if the distinguished symbols combine in particular sub-formations, and means for varying the formation whereby different and possibly prize winning sub-formations can be achieved.

2. A machine as claimed in Claim 1, wherein the selection and distinguishing of symbols is carried out in sequence.

3. A machine as claimed in Claim 2, wherein the varying means is enabled during sthe symbol selection and distinguishing.

4. A machine as claimed in Claim 1, 2 or 3, wherein the varying means is disabled after the symbol selection and distinguishing.

5. A machine as claimed in any preceding claim, wherein the formation is a matrix of rows and columns.

6. A machine as claimed in Claim 5, wherein the sub-formations are rows, columns and/or diagonals of the matrix, in whole or in part.

7. A machine as claimed in Claim 5 or Claim 6, wherein the variation of the formation is by alternation of sub-matrices.

8. A machine as claimed in Claim 7, wherein when sub-matrices are altered, their symbols shift positions in a cyclic manner.

9. A machine as claimed in Claim 7 or Claim 8, wherein the number of sub-matrices available for alteration is subject to random selection.

10. A machine as claimed in Claim 7, 8 or 9, wherein the sub-matrices are 2 x 2 and their symbols are on geared discs meshing with a common member, the rotation of said member, or a carrier on which the discs may be rotatably mounted, causing the discs to shift to adjacent positions while themselves rotating to cause their symbols to resume their original orientations when the adjacent positions are reached.

11. A machine as claimed in any preceding claim and further comprising at least one subsidiary display with certain of the symbols set out in formation, randomly enabled means for distinguishing in this formation symbols selected by the generator, and means for rewarding a prize if the distinguished symbols in such a subsidiary display combine in particular sub-formations.

12. A machine as claimed in any preceding claim, and including means randomly enabling symbols distinguished in one game to remain distinguished for the next following game.

13. A machine as claimed in Claim 12, wherein the next following game has a reduced number of symbols selected.

14. A machine as claimed in Claim 12 or Claim 13, wherein the next following game has the adjustment of formations disabled.

15. A machine as claimed in any preceding claim wherein the selection of symbols is made visible by means corresponding to reels of a fruit machine.

16. A gaming or amusement-with-prizes machine, substantially as hereinbefore described with reference to the accompanying drawings.

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